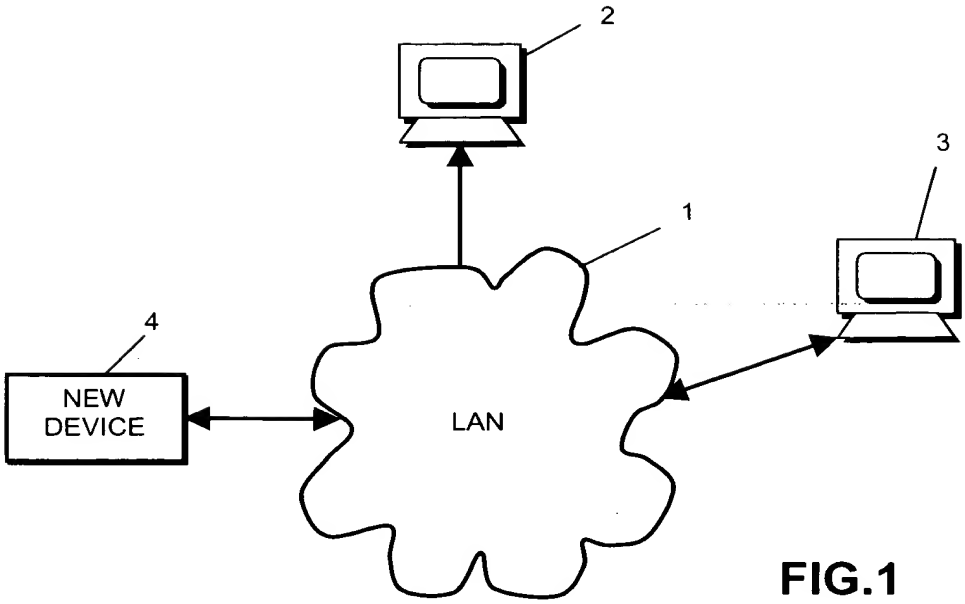
2
3
1
4
NEW
DEVICE
LAN

FIG.1

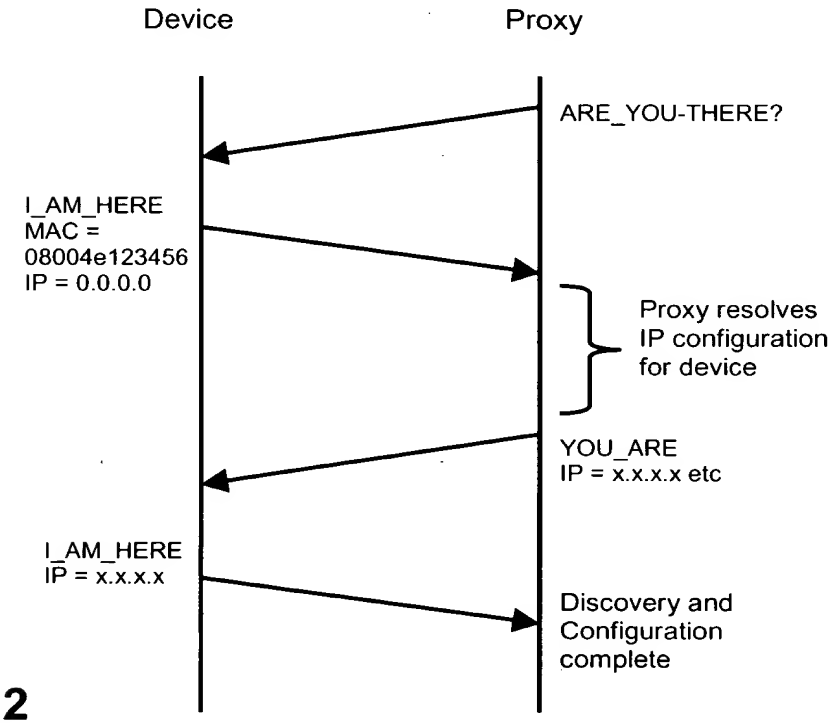
Device
Proxy
ARE_YOU-THERE?
I_AM_HERE
MAC =
08004e123456
IP = 0.0.0.0
Proxy resolves
IP configuration
for device
YOU_ARE
IP = x.x.x.x etc
I_AM_HERE
IP = x.x.x.x
Discovery and
Configuration
complete

FIG.2

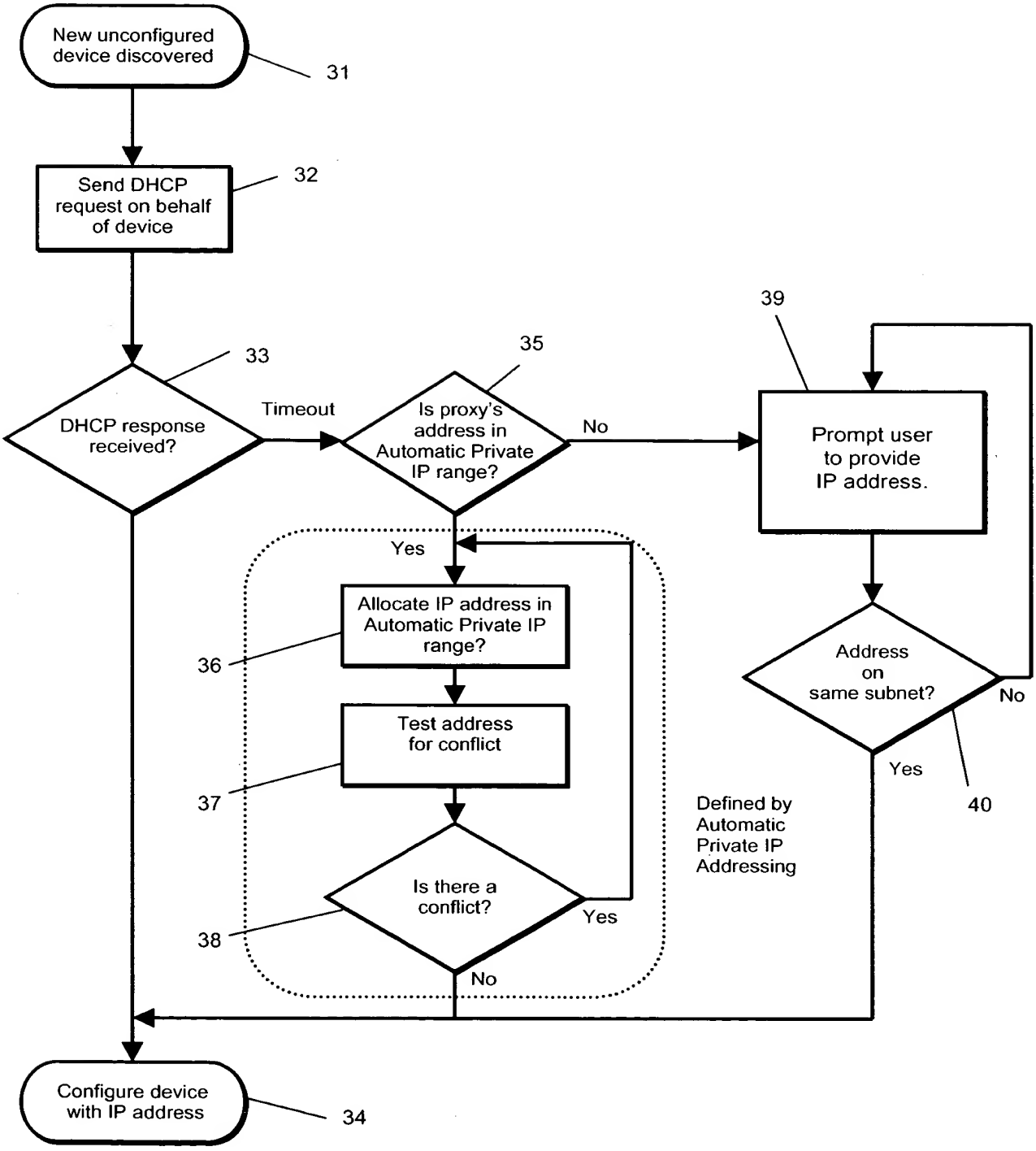
New unconfigured device discovered
31
Send DHCP request on behalf of device
32
DHCP response received?
33
Timeout
Is proxy's address in Automatic Private IP range?
35
No
Prompt user to provide IP address.
39
Yes
Allocate IP address in Automatic Private IP range?
36
Test address for conflict
37
Is there a conflict?
38
Yes
No
Address on same subnet?
No
Yes
40
Defined by Automatic Private IP Addressing
Configure device with IP address
34

FIG.3

0	8	16	24	32
Opcode (16) MSB	LSB	Sequence no. (16) MSB	LSB	
MAC addr (48) MSB				
	LSB	Result (16) MSB	LSB	
IP address (32) MSB			LSB	
Subnet mask (32) MSB			LSB	
Default Gateway (32) MSB			LSB	
Lease (32) MSB			LSB	
Name	Length = 48 bytes			

FIG.4

Field	Size(bytes)	Description
Op-code	2	1 = I_AM_HERE (sent by device, includes current units paramters) 2 = YOU_ARE (sent by proxy, includes parameters to use) 3 = ARE_YOU_THERE (sent by proxy, parameters ignored)
Sequence Number	2	Sequence Number. Will be set to a new value for each request, used to match requests with responses.
Mac Address	6	Unit hardware address or broadcast address for an initial ARE_YOU request frame
Result	2	0 = No error
IP Address	4	Unit configured IP address (0.0.0.0 if unconfigured)
Subnet Mask	4	Unit configured Subnet mask (0.0.0.0 if unconfigured)
Gateway	4	Unit configured default gateway (0.0.0.0 if unconfigured)
Lease	4	The length of time in seconds for device to use these IP address parameters. This is used by proxy to indiciate that the address is obtained via DHCP and has a finite lease time. 0xFFFFFFFF represents a non-expiring address.
Name	48	ASCII string with the description of the unit (e.g. 3Com OfficeConnect Dual Speed Switch 16). Padded with 0's, unless maximum length.

FIG.5